

### Biological Agents Reference Chart \*

AGENT	DETECTION	TREATMENT
<b>Anthrax</b>	I: 1–6 d. FLS. Possible widened mediastinum. Gram stain (gram-positive rod) of blood and blood culture (late).	TBI: treatment may be delayed 24 h. until cultures from incident site available.  PEP (only if instructed by govt. officials): ciprofloxacin or doxycycline po x 8 wks.  Severe cases: ciprofloxacin, doxycycline, or penicillin IV.
<b>Cholera</b>	I: 4 h–5 d. Severe gastroenteritis with "rice water" diarrhea.	Oral rehydration with WHO solution or IV hydration.  Tetracycline, doxycycline (dosage as below or 300 mg one time) po for 3 d. Ciprofloxacin or norfloxacin po for 3 d. if resistant strains.
<b>Plague</b>	I: 2-3 d. FLS.  CXR: patchy infiltrates or consolidation.  Gram stain of lymph node aspirate, sputum, or CSF (gram negative, non-spore forming rods).	<b>Isolation.</b>  PEP: doxycycline or ciprofloxacin for 7 days  Symptomatic: gentamicin or doxycycline IV for 10–14 days.  Meningitis: chloramphenicol.
<b>Tularemia</b>	I: 2-10 d. FLS.	Gentamicin for 10–14 d.
<b>Q Fever</b>	I: 10-40 d. FLS.	Most cases self-limited.  Tetracycline or doxycycline po for 5–7 d.
<b>Smallpox</b>	I: 7-17 (avg. 12) d. FLS. Later erythematous rash that progresses to pustular vesicles.  Electron or light microscopy of pustular scrapings. PCR.	<b>Isolation.</b>  PEP: vaccinia vaccine scarification and vaccinia immune globulin IM.
<b>Viral Encephalitides</b>	I: 1-6 d. FLS.	Supportive.

	Immunoassay.	
<b>Viral Hemorrhagic Fevers</b>	I: 4-21 d. FLS. Easy bleeding and petechiae.  Enzyme immunoassay.	<b>Isolation.</b> Supportive care.  Some respond to ribavirin.
<b>Botulism</b>	I: 1-5 d. Descending bulbar, muscular and respiratory weakness.	Supportive.  PEP: toxoid.  Symptomatic: anti-toxin.
<b>Staphylococcus Enterotoxin B</b>	I: 3-12 h. FLS.	Supportive.
<b>Ricin</b>	I: 18-24 h. FLS, pulmonary edema, and severe respiratory distress.	Supportive.
<b>T-2 Mycotoxins</b>	I: 2-4 h. Skin, respiratory and GI symptoms.	Supportive.
<p><b>Abbreviations:</b> CSF: cerebro-spinal fluid. CXR: chest x-ray. d: days. h: hours. FLS: flu-like symptoms. GI: gastro-intestinal. I: incubation period.</p> <p><b>PCR:</b> polymerase chain reaction. <b>PEP:</b> post-exposure prophylaxis. <b>TBI:</b> threatened biologic incident. <b>WHO:</b> World Health Organization.</p> <p><b>Dosages:</b> <b>Chloramphenicol:</b> 50-75 mg/kg/d, divided q 6 hrs. <b>Ciprofloxacin:</b> po: 500 mg q 12 h.; IV: 400 mg q 8-12 h. <b>Doxycycline:</b> po: 100 mg q 12 hrs; IV: 200 mg initially then 100 mg q 12 h. <b>Erythromycin:</b> po: 500 mg q 6 h. <b>Gentamicin:</b> 3-5 mg/kg/d. <b>Norfloxacin:</b> po: 400 mg. <b>Penicillin:</b> IV: 2 million units q 2 h. <b>Tetracycline:</b> po: 500 mg q 6 h. <b>Streptomycin:</b> IM: 15 mg/kg, BID. <b>Vaccinia immune globulin:</b> IM: 0.6 mL/kg.</p> <p><b>WHO solution:</b> 3.5 g NaCl, 2.5 g NaHCO<sub>3</sub>, 1.5 g KCl and 20 g of glucose per liter of water.</p>		

*\*This material is the original property of the San Diego County Medical Society. With their permission, it has been adapted, reprinted, and distributed by the Washington State Department of Health for the educational use of Washington State EMS personnel.*